

REMARKS

Claims 13-23 are all the claims pending in the application. Claims 19-21 have been withdrawn. By this Amendment, Applicant amends claim 13 to further clarify the features set forth therein. In view of the foregoing, Applicant cancels claims 14 and 15 without prejudice or disclaimer. Applicant also adds claims 24 and 25, which are clearly supported throughout the specification.

I. Summary of the Office Action

The Examiner withdrew the previous grounds for rejecting the claims. The Examiner, however, found new grounds for rejecting the claims.

Specifically, the Examiner maintained the rejections of claim 23 under 35 U.S.C. § 112, first paragraph and second paragraph without providing any additional explanation. The Examiner now rejects claims 13-23 under 35 U.S.C. § 103(a) as being obvious over JP60-18648 (hereinafter “’648”) in view of a newly found reference, U.S. Patent No. 3,440,197 to Boldebuck et al. (hereinafter “Boldebuck”).

II. Claim Rejection under 35 U.S.C. § 112, first paragraph

Claim 23 remains rejected under 35 U.S.C. § 112, first paragraph. Specifically, the Examiner alleges that “uniform thickness” is not supported by the specification without rebutting arguments presented regarding this feature being supported by the specification. Applicant respectfully traverses the rejection as set forth below and respectfully requests that the Examiner respond to the arguments set forth below.

There is no *in haec verba* requirement, MPEP § 2163. Fig. 4, pages 14 and 16-17 of the specification disclose an exemplary embodiment in which the “insulation coating 55 is formed

on the slot bottom wall 53a and the pair of slot side walls 53b and 53c of each slot 53, thereby covering the slot bottom wall 53a entirely and covering the pair of slot side walls 53b and 53c. The insulation coating 55 has a specific thickness T, and continues from the slot bottom wall 53a to the pair of slot side walls 53b and 53c to cover them over.” (page 14, ¶ 29 of the specification). In other words, the insulation coating is of a specific thickness T, as shown in Fig. 4. That is, the coating is uniform in thickness because T is a specific number.

In short, Applicant respectfully maintains that the specification clearly provides support for the unique features in claim 23.

III. Claim Rejection under 35 U.S.C. § 112, second paragraph

Claim 23 remains rejected under 35 U.S.C. § 112, second paragraph. Specifically, the Examiner maintains that “uniform thickness” is indefinite because Fig. 7 discloses different thickness in the groove area without rebutting arguments in support of this feature being definite (*see* pages 2-3 of the Office Action). Applicant respectfully traverses these grounds of rejection as set forth below.

Applicant respectfully notes that Fig. 7 is a third exemplary embodiment of the above-identified application and Fig. 4 which show a first exemplary embodiment that clearly depicts a uniform coating T. Further, Applicant notes that grooves are formed after the uniform coating is created using spraying techniques. In short, Applicant respectfully maintains that the uniform thickness is clear and definite.

IV. Claim Rejection under 35 U.S.C. § 103

Claim 13-18, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over (JP60-18648), hereinafter “‘648” in view of a newly found reference, Boldebuck et al (US

3,440,197), hereinafter “Boldebuck”. Applicant respectfully traverses these grounds of rejection at least in view of the following exemplary comments.

Of these rejected claims, only claim 13 is independent. Independent claim 13 *inter alia* recites: “a spraying step for spraying a powder of an electrical insulation material on the slot peripheral wall of each slot to form an insulation coating; a cutting step for cutting into the insulation coating on the pair of slot side walls at vicinity of the slot opening to form a pair of holding grooves opposing each other, each of the pair of holding grooves has a groove bottom wall and a pair of groove side walls opposing to each other; an inserting step for inserting an electrical insulation member between the holding grooves for closing the slot opening, wherein in the spraying step, wherein in the spraying step, the insulation coating is formed over continuously from the slot bottom wall to the pair of slot side walls, and wherein in the cutting step, the holding grooves are formed in the insulation coating on the slot side walls so that a depth of each of the holding grooves is smaller than a thickness of the insulation coating, and the groove bottom wall and the pair of the groove side walls are formed in the insulation coating on the slot side walls.”

A. Prior Art does not disclose or suggest spraying the powder of electrical insulation material on the slots as set forth in claim 13

The Examiner acknowledges that ‘648 does not disclose or suggest forming a coating by spraying the slots (*see* page 4 of the Office Action). The Examiner, however, alleges that Boldebuck cures this deficiency (*see* page 4 of the Office Action). Applicant respectfully disagrees.

Boldebuck discloses converting coating solutions to insulating films. Specifically, Boldebuck discloses that a film may be formed by casting the coating solution on a glass substrate and heating it (col. 4, line 52 to col. 5, line 2). Boldebuck further discloses that these polymers (the coating solution) can be employed as insulation over a conducting core or as dipping varnishes to impregnate coils in a motor for example. Boldebuck further discloses that the polymers in the film form are suitable as a dielectric in making capacitors, as slot insulation in motors, etc. (col. 5, lines 35 to 51). Boldebuck further discloses that “these polymers can also be spray-coated from the coating solution onto a hot surface to give a good film or coating” (col. 5, lines 51 to 53). That is, Boldebuck simply discloses that polymers can be spray coated but does not disclose or suggest when this technique should be used. Furthermore, Boldebuck discloses spraying polymers but fails to disclose or suggest spraying powder.

In other words, Boldebuck is no different from the conventional techniques described in the above-identified application. That is, Boldebuck, just like an exemplary embodiment of the present invention (page 15, ¶ 30 of the specification), only indicates that spraying method may be used in some instances for coating but omits any details as to when this method can be applied.

No where does Boldebuck indicate that the spray-coating can be provided for slot insulation or that powder of insulation material is sprayed. The Examiner’s position that Boldebuck discloses spraying the powder of insulation material onto the slots amounts to a mere speculation not substantiated by any evidence of record. Boldebuck simply discloses that one application of the coating solution is slot insulation in motors. Boldebuck further discloses that one of the techniques in applying the solution is spraying. However, Boldebuck does not even remotely suggest a link between a particular application and a method of applying the solution.

In other words, Boldebuck does not disclose or even remotely suggest spraying the coating solution to form slot insulation in motor. Furthermore, Boldebuck does not disclose or even remotely suggest spraying powder of insulation material.

In short, Boldebuck does not disclose or suggest spraying a powder of an electrical insulation material on the slots... as set forth in claim 13.

B. One of Ordinary Skill in the Art would not have combined '648 with Boldebuck

The Examiner alleges that one of ordinary skill in the art would have combined Boldebuck's coating method with the disclosure of '648 "in order to obtain a fine good coating film" (*see* page 4 of the Office Action). Applicant respectfully disagrees.

This reason amounts to a mere speculation not substantiated by any objective evidence of record. Boldebuck only discloses that polymers may be spray-coated to give a good film. However, Boldebuck does not disclose or suggest that this technique is superior to others.

'648 discloses inserting the insulator layer 8 into the slot 7, which means that the insulation layer is manufactured separately and inserted into the slot 7 instead of actually spraying a coating of insulation on the side walls of the slots. That is, the layer is inserted into the slots. There is no reason or suggestion for spraying the insulator layer as opposed to inserting it into the slots.

Furthermore, the purpose of the '648 reference is to overcome the disadvantage of having accurate dimensions so as to fit the insulated element wire into the slot. Specifically, the insulating member shaped like the slot is inserted to insulate the interior of a slot in which a coil is put (pages 2 and 4 of the translation). If the insulation film is spray coated, it would defeat the purpose of '648 *i.e.*, to use the insulating member shaped like the slot. Furthermore, it would clearly change the principle operations of the '648 reference.

Accordingly, one of ordinary skill in the art would not have modified '648 with a technique of Boldebuck as alleged by the Examiner.

C. *The prior art does not disclose or suggest the cutting step as set forth in claim 13*

Furthermore, claim 13 recites: “a cutting step for cutting into the insulation coating on the pair of slot side walls at vicinity of the slot opening to form a pair of holding grooves opposing each other, each of the pair of holding grooves has a groove bottom wall and a pair of groove side walls opposing to each other; wherein in the cutting step, the holding grooves are formed in the insulation coating on the slot side walls so that a depth of each of the holding grooves is smaller than a thickness of the insulation coating, and the groove bottom wall and the pair of the groove side walls are formed in the insulation coating on the slot side walls.”

The Examiner neglects to address these previously added features of claim 13 and simply maintains that '648 discloses the above-quoted unique features of claim 13 in Fig. 8, element 12. In fact, the Examiner does not directly address the wherein clause of claim 13 (*see* page 4 of the Office Action). Applicant respectfully traverses as follows.

Fig. 8 of '648 does not show any that the holding grooves are formed in the insulation coating so that depth of each grove is smaller than thickness of the insulation coating and having the bottom and side walls of the groove being formed in the insulation coating on the slot side walls. That is, the depth of the recessed part 12 (alleged grooves) in the '648 is not disclosed. In fact, there is no suggestion of that the depth of the recessed part 12 being smaller than the thickness of the insulation member 8.

The combination cannot possibly disclose the cutting and the groove walls inside the insulation coating as set fort in claim 13.

D. Concluding Remarks

For at least these exemplary reasons, claim 13 is patentable over ‘648 in view of Boldebuck. Claims 14-18, 22, and 23 are patentable by virtue of their dependency on claim 13.

In addition, dependent claim 23 recites “wherein the insulation coating formed by said spraying is uniform in thickness.” The Examiner alleges that ‘648 discloses the above noted unique features of claim 23 (*see* page 5 of the Office Action). Applicant respectfully disagrees. ‘648 only discloses that the insulating member 8 has a rugged groove but fails to disclose or even remotely suggest the thickness of insulating member 8. Fig. 8 of ‘648 does not show uniform thickness. Boldebuck does not cure this deficiency. For at least these additional reasons, claim 23 is patentable over ‘648 in view of Boldebuck.

V. New Claims

In order to provide more varied protection, Applicant adds new claims 24 and 25, which are patentable by virtue of their dependency and for additional features set forth therein.

VI. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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Nataliya Dvorson
Registration No. 56,616